

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A data packet processing device for processing data packets received from a network, including:

a processor for processing data packets;

an interface operable for transmitting data packets to and from an external memory;

a scheduler for assigning priority information which determines an order of the data packets to be processed to each received data packet in the external memory ~~packets, and based on the assigned priority information determining a priority order of data packets to be processed,~~ and storing links to the data packets in a pointer memory for processing in said priority order;

an internal memory for storing data packets;

a memory manager coupled to the external memory and the internal memory operable to transfer the data packet having the highest priority stored in the external memory to the internal memory to be processed as one of the next ~~cause storing data packets in the external memory and to provide data packets in the internal memory for being processed by the processor;~~

wherein the memory manger is operable to transfer a data packet from the internal memory to the external memory ~~provides data packets in the internal memory for being processed by the processor subject to the priority information assigned to the data packets and the links stored in the pointer memory.~~

2. (Cancelled)
3. (Previously Presented) A data packet processing device according to claim 1, wherein depending on the priority information assigned to a data packet, and the packet's stored link in the pointer memory, the memory manager transmits the data packet from the internal memory to the external memory.
4. (Currently Amended) A data packet processing device according to claim 1 [[2]], wherein the memory manager means keeps a data packet stored in the internal memory if the priority information assigned to the data packet, and the packet's stored link in the pointer memory, indicates a high priority, and transmits the data packet to the external memory if the priority information assigned to the data packet, and the packet's stored link in the pointer memory, indicates a low priority.
5. (Previously Presented) A data packet processing device according to claim 4, wherein the internal memory has a size to store a number x of data packets to be processed next, wherein the priority of a data packet is high if the assigned priority information, and the packet's stored link in the pointer memory, indicates that the data packet is within the next x-1 ones to be processed and/or wherein the priority of the data packet is low if the assigned priority information, and the packet's stored link in the pointer memory, indicates that the data packet is not within the next x-1 ones to be processed.

6.-15. (Cancelled)

16. (Currently Amended) A method for processing a data ~~packets~~ packet, said method comprising:

receiving the data ~~packets~~ packet from a network;

storing the data ~~packets~~ packet in an ~~internal~~ external memory; [[and]]

determining a priority of the received data packet and assigning priority information to each of the data packet; ~~wherein:~~

transferring at least one of the packets having the highest priority to an internal memory for storage and processing as one of the next data packets;

~~if the priority information indicates that the priority of the data packet is high, keeping the data packet in the internal memory for processing as one of the next data packets, and storing a pointer link to the data packet in a pointer memory to facilitate processing in the data packet's assigned priority order; and wherein:~~

~~if the priority information indicates that the priority of the data packet is not high, transferring [[the]] a data packet from the internal memory to the external memory~~
if the priority information indicates that the priority of the data packet is not high; [[,]]
and

storing a pointer link to the data packet in a pointer memory to facilitate processing in the data packet's assigned priority order.

17. (Previously Presented) A method as recited in claim 16, further comprising

checking if a next packet is received having a high priority; if the next packet is received having a high priority, repeating the steps of storing and determining for the next packet; and if the next data packet is not received, waiting until the next data packet is received and repeating the step of checking.

18. (Currently Amended) An article of manufacture comprising a tangible computer storage medium readable by a computer and storing instructions for execution by the computer for processing data packets in accordance with a method comprising steps of:

receiving the data ~~packets~~ packet from a network;

storing the data ~~packets~~ packet in an ~~internal~~ external memory; ~~[[and]]~~

determining a priority of the received data packet and assigning priority

information to each of the data packet;~~,-wherein:~~

transferring at least one of the packets having the highest priority to an internal memory for storage and processing as one of the next data packets;

~~if the priority information indicates that the priority of the data packet is high, keeping the data packet in the internal memory for processing as one of the next data packets, and storing a pointer link to the data packet in a pointer memory to facilitate processing in the data packet's assigned priority order; and wherein:~~

~~if the priority information indicates that the priority of the data packet is not high,~~ transferring ~~[[the]]~~ a data packet from the internal memory to the external memory if the priority information indicates that the priority of the data packet is not high;[[,]] and

storing a pointer link to the data packet in a pointer memory to facilitate processing in the data packet's assigned priority order.

19. (Currently Amended) A program storage device comprising a tangible storage medium readable by a computer and storing a set of computer readable instructions for execution by the computer for processing data packets in accordance with a method of:

receiving the data ~~packets~~ packet from a network;

storing the data ~~packets~~ packet in an ~~internal~~ external memory; [[and]]

determining a priority of the received data packet and assigning priority

information to each of the data packet;~~;~~ wherein:

transferring at least one of the packets having the highest priority to an internal memory for storage and processing as one of the next data packets;

~~if the priority information indicates that the priority of the data packet is high, keeping the data packet in the internal memory for processing as one of the next data packets, and storing a pointer link to the data packet in a pointer memory to facilitate processing in the data packet's assigned priority order; and wherein:~~

~~if the priority information indicates that the priority of the data packet is not high, transferring [[the]] a data packet from the external memory to the external memory~~
if the priority information indicates that the priority of the data packet is not high;[[,]] and

storing a pointer link to the data packet in a pointer memory to facilitate processing in the data packet's assigned priority order.